

CLAIMS

1. An electronic frank, in use arranged to be associated with data to be transmitted over a telecommunications network to an intended recipient at a destination address, the electronic frank containing information arranged to be authenticated whereby the electronic frank can be validated and processed to confirm if the frank meets at least one predetermined delivery criteria, the electronic frank being thus validated prior to the data being transmitted to the destination address.
- 10 2. An electronic frank as claimed by claim 1, wherein the data to be transmitted comprises an electronic mail message.
- 15 3. An electronic frank as claimed in claim 2, wherein the electronic frank comprises a data attachment to the electronic mail message.
4. An electronic frank as claimed in any preceding claim, wherein the electronic frank data structure comprises a digital wrapper certificate type data structure.
- 20 5. An electronic frank as claimed in any preceding claim, wherein the criteria for the data to be transmitted to the destination address is determined by the intended recipient.
- 25 6. An electronic frank as claimed in any preceding claim, wherein the electronic frank is associated with a predetermined cost-value.
7. An electronic frank as claimed in claim 4, wherein at least one predetermined criteria to which the electronic frank must conform is for the cost-value of the electronic frank to be the correct value associated with the data to be sent to the recipient.
- 30 8. An electronic frank as claimed in any one of claims 6 to 7, wherein the cost-value is determined by at least one characteristic of the data to be transmitted to the intended recipient.

9. An electronic frank as claimed in any preceding claim, wherein at least one characteristic of the data comprises:
 - the destination address of the intended recipient of the data;
 - the address of the sender of the data;
 - 5 the identity of the sender of the data;
 - the number of copies of the data which are being sent by the sender of the data;
 - the bandwidth of data;
 - the content of the data; and
 - the number of uses of the electronic frank.
10. 10. An electronic frank as claimed in any preceding claim, wherein the cost value is a monotonically increasing function of the size of the data to be transmitted.
11. 15. An electronic frank as claimed in any preceding claim, wherein the electronic frank was issued by the intended recipient of the data to be transmitted.
12. 20. An electronic frank as claimed in any one of claims 1 to 11, wherein the electronic frank is issued by a third party who authenticates at least one characteristic of the data as being valid.
13. 25. An electronic frank arranged to be capable of being attached to data comprising e-mail to be sent by a user of an electronic mail client application to an intended recipient via a telecommunications network, the electronic frank having a data structure which conforms to a predetermined format which enables certain delivery criteria to be applied when the electronic frank is processed by apparatus in the network, wherein the delivery criteria determine whether the recipient receives the e-mail.
30. 14. An electronic frank as claimed in claim 13, wherein the electronic frank is associated with a cost-value dependent on a set of at least one predetermined characteristics of the e-mail to which the frank is to be attached.

15. An electronic frank as claimed in claim 13 or 14, wherein the data structure authenticates at least the identity of the sender of the e-mail using a digital wrapper type certificate.
- 5 16. An electronic frank as claimed in any one of claims 1 to 15, in which the electronic frank is issued is computed by an application which is operable to increase the cost value in the event of the e-mail being marked with a marker indicative of the priority of transmission to the intended recipient.
- 10 17. An electronic frank as claimed in any one of claims 1 to 16, in which the electronic frank is issued by an application remotely accessed by the sender, the application being controlled independently by a third party who authenticates at least the identity of the sender prior to issuing the sender with the electronic frank, the delivery criteria for delivery then being that the data being sent is attached to such an authenticated electronic frank.
- 15 18. A terminal arranged to enable a user to send data electronically to an intended recipient over a telecommunications network, the terminal comprising:
 - means for generating data electronically;
 - 20 means operable to associate an electronic frank as claimed in any one of claims 1 to 17 with the data prior to its being transmitted;
 - means for displaying to a user of the terminal a visual indication representative of the electronic frank; and
 - 25 means for transmitting the franked data via a telecommunications network to a destination address.
- 30 19. A terminal as claimed in claim 18, wherein the terminal further comprises means operable to authenticate the information conveyed by the electronic frank prior to the franked data being sent by the apparatus and to include this authentication information within the data structure of the electronic frank.
- 35 20. A terminal as claimed in claim 19, wherein said at information authenticated includes the address of the sender and/or the identity of the sender and/or that the franking cost-value of the electronic frank is the appropriate amount for the data being sent.

21. A terminal as claimed in any one of claims 19 to 20, wherein the means operable to associate an electronic frank with the data comprises means to automatically generate the frank and to automatically attach the frank to any data to be transmitted.

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22. Apparatus forming part of a telecommunications network and arranged to forward e-mail to a destination address, the apparatus further comprising:
data validation means arranged to validate an electronic frank as claimed in any one of claims 1 to 17 which has been attached to e-mail to be sent to a recipient over a communications network.

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23. Apparatus as claimed in claim 22, wherein the apparatus comprises the outgoing e-mail server of the user.

15 24. Apparatus as claimed in claim 23, wherein the apparatus comprises the incoming e-mail server of the recipient of the e-mail.

25. Apparatus as claimed in claim 24, wherein the data validation means performs a validation process which authenticates the electronic frank.

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26. Apparatus as claimed in any one of claims 22 to 25, wherein the apparatus performs a delivery criteria check process by processing an electronic frank according to predetermined delivery criteria, wherein said predetermined delivery criteria determine if the e-mail is to be delivered to the recipient.

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27. Apparatus as claimed in claim 26, wherein the delivery criteria is whether an electronic frank is attached having an appropriate cost-value for the data being sent.

30 28. A method of generating an electronic frank as claimed in any one of claims 1 to 17, the electronic frank associated with a unique identifier and comprising a data structure conforming to a predetermined data template, the method comprising the steps of:
receiving a request for an electronic frank from a requesting entity;

querying the requesting entity for information to determine at least one parameter-value to be contained within the data structure;

processing the information provided by the requesting entity;

generating a data structure using the processed information, the data structure containing the at least one parameter-value pair associated with a characteristic of the data to be sent; and

issuing the electronic franking data to the requesting entity.

29. A method of sending franked data over a telecommunications network to an intended recipient at a destination address, the method comprising the steps of:

10 preparing the data for transmission;

 obtaining an electronic frank as claimed in any one of claims 1 to 17 to authenticate the data to be transmitted; and

 attaching an electronic frank to the data; and

15 transmitting the franked data over the telecommunications network.

30. A method as claimed in claim 29, wherein the electronic frank data is associated with a cost-value which is charged to the sender of the data.

20 31. A method of filtering data sent over a telecommunications network towards an intended recipient, the method comprising, at a communications apparatus arranged to forward the data towards the intended recipient, the steps of:

 receiving the data for forwarding to the intended recipient;

 processing the data to determine if it is associated with an electronic frank

25 as claimed in any one of claims 1 to 17; and,

 if no electronic frank is found and/or if the electronic frank has a data structure which does not conform to a set of at least one predetermined criteria preventing the data from being forwarded to the intended recipient, or

 otherwise forwarding the data to the intended recipient.

30 32. A mail server arranged to implement the method of claim 31.

33. A firewall component arranged to implement the method of claim 31.

34. An electronic mail system comprising a server and a plurality of terminals, at least some of said terminals being in accordance with claims 18 to 21.
35. A signal in a communications network, the signal comprising data associated with an electronic frank according to any one of claims 1 to 17.
36. A method of providing bandwidth for a data transmission service over a communications network to a user who does not have prearranged access to the communications network at that bandwidth, the method comprising the steps of:
 - 10 associating an electronic frank according to any one of claims 1 to 17 with data to be sent using said data transmission service, said electronic frank being associated with a cost-value;
 - providing a data transmission service to send and/or receive franked data over said communications network at said bandwidth.
- 15 37. A method as claimed in claim 36, further comprising the step of said user obtaining said electronic frank prior to associating said electronic frank with said data to be sent.
- 20 38. A method as claimed in claim 36 or 37, wherein said user purchases said electronic frank prior to associating said electronic frank with said data to be sent.
39. A method as claimed in any one of claims 36 to 38, wherein said cost-value is charged to said user.
- 25 40. A method of providing a predetermined bandwidth for a data transmission service to a user who does not have prearranged access to a communications network at that bandwidth, the method comprising the steps of:
 - enabling the user to indicate the desire to send data via a data transmission client application;
 - 30 enabling the user to purchase an electronic frank according to any one of claims 1 to 17,
 - wherein the electronic frank is associated with said data and a cost-value associated with the electronic frank has been charged to the user, wherein the association of the electronic frank with the data enables the data transmission client application to

send and/or receive franked data via a server connected to the communications network at the predetermined bandwidth.

41. A method as claimed in claim 36 to 40, wherein the data comprises e-mail.

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42. Software comprising a suite of one or more computer programs, the software being provided on a carrier medium and arranged in use to be run on one or more computer type devices to implement the methods according to any one of claims 27 to 31 or 36 to 41.

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